

Utilizing Maternity Practices in Infant Nutrition and Care (mPINC) and Other Data Sources to Track Success

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California Breastfeeding Summit: January 26, 2012

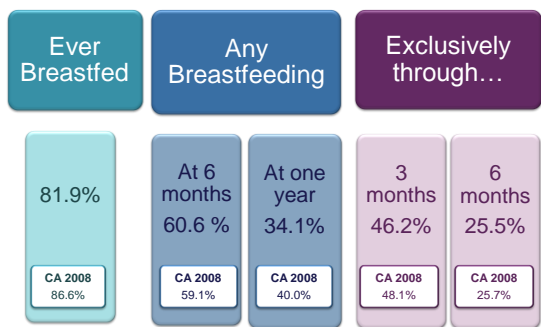


Learning Objectives

- Identify two data sources used to track progress in implementing evidence-based maternity care policies and practices in California
- Discuss the status of maternity practices related to infant feeding and care in California
- Describe infant feeding patterns in California, including breastfeeding initiation, duration and exclusivity
- Discuss the Birth and Beyond California project from implementation, to outcomes, lessons learned and expansion throughout California



Setting Standards: *Healthy People* Breastfeeding Goals



Source: Breastfeeding Report Card, 2011 <http://www.cdc.gov/breastfeeding/data/reportcard.htm>



Setting Standards: WHO/UNICEF's Baby-Friendly Hospital Initiative *Ten Steps to Successful Breastfeeding*

1. Have a written policy that is routinely communicated with health care staff.
2. Train all health care staff in skills necessary to implement policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within 1 hour of birth.
5. Show mothers how to breastfeed and maintain lactation, even if they are separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practice rooming-in; allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial pacifiers to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mother to them on discharge from the hospital.

Source: Baby Friendly USA. www.babyfriendlyusa.org/ten/10steps.html



Momentum is building for evidence-based maternity care that supports breastfeeding...



Setting Standards: The Joint Commission Perinatal Care Core Measure on Exclusive Breast Milk Feeding

The Joint Commission defines exclusive breast milk feeding as:
"a newborn receiving only breast milk and no other liquids or solids except for drops or syrups consisting of vitamins, minerals, or medicines." Breast milk feeding includes expressed mother's milk as well as donor human milk, both of which may be fed to the infant by means other than suckling at the breast.

of exclusively breast milk-fed non-NICU term infants (including those supplemented with human milk)

of non-NICU term infants, including those with medical reasons for supplementation, with certain exceptions*

*The measure will exclude from the denominator the following infants: discharge from hospital while in the NICU, ICD-9-CM diagnosis code for galactosemia or parental infusions, experienced death, length of stay >120 days, enrolled in clinical trials, or documented reason for not exclusively feeding breast milk.
For more information visit: http://www.jointcommission.org/perinatal_care

**Setting Standards: Healthy People 2020
New Objectives on Hospital Support**

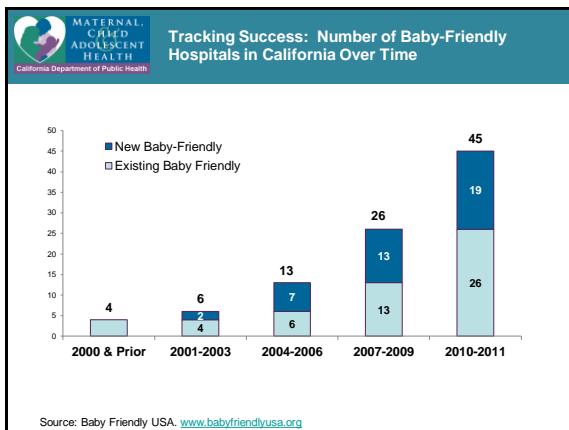
Goal 8.1% Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and babies

Goal 14.2% Reduce the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life

**Setting Standards: New Legislation California (SB 502)
Required Model Breastfeeding Policies**

This legislation will reinforce and support hospitals in taking Step One of the Baby-Friendly Ten Steps.

- requires all perinatal hospitals in California to have an infant feeding policy in place that promotes breastfeeding utilizing guidance provided by BFHI or the California Model Hospital Policy Recommendations
- to post this policy in their perinatal unit or on their hospital website,
- and to routinely communicate this policy to all staff.



Tracking Success: Utilizing the Maternity Practices in Infant Nutrition and Care Survey (mPINC)

In 2007, CDC administered the first national mPINC Survey to all facilities in the US.

Purposes

Intervention

- Communicates importance of breastfeeding-related practices
- Benchmarks current practices

Surveillance

- Bi-annual assessment
- National and state reports

mPINC Survey Concepts

Practices and policies related to the WHO/UNICEF *Ten Steps to Successful Breastfeeding*

Labor and birthing practices such as:

- Induction & augmentation
- Mode of delivery

Postpartum care practices such as:

- Infant location for routine procedures


mPINC Survey Scoring

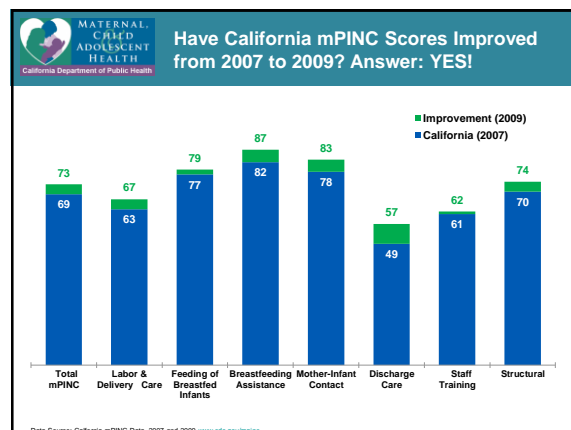
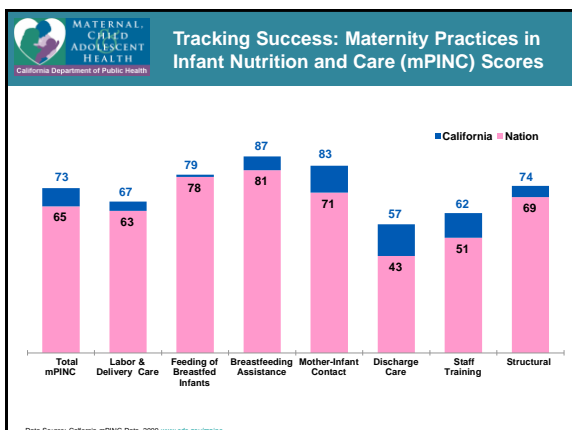
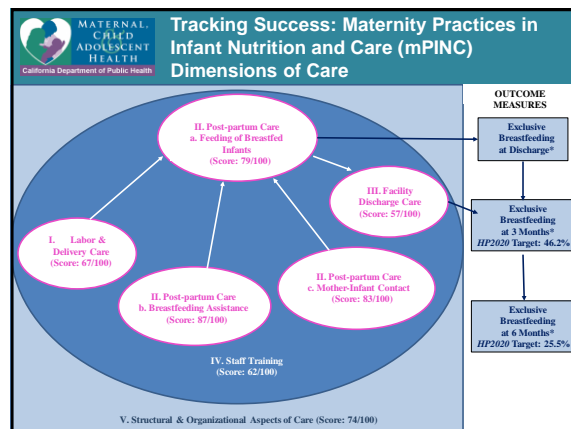
Total of 52 questions
(categorized into 7 dimensions)

Points are assigned to responses to every question.
Higher points were given for practices that are supportive of breastfeeding.

Subscores (0-100 scale) = average of points for each question in the dimension.

Composite quality practice scores (0-100 scale) = average of care dimension subscores.

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mPINC Survey Dimensions of Care	
Dimension of Care (mPINC subscale)	Key informant reports on: (examples)
Labor and Delivery Care	Early skin-to-skin contact Breastfeeding initiation
Feeding of Breastfed Infants	Supplementation
Breastfeeding Assistance	Whether staff assess breastfeeding Whether staff advise on breastfeeding
Mother-Infant Contact	Mother infant separation Rooming-in
Facility Discharge Care	Post-discharge breastfeeding support Distribution of "gift packs"
Staff Training	Staff education Staff competency assessment
Structural and Organizational	Breastfeeding policies



Centers for Disease Control and Prevention
MMWR
 Early Release / Vol. 60
 Morbidity and Mortality Weekly Report
 August 2, 2011

Vital Signs: Hospital Practices to Support Breastfeeding — United States, 2007 and 2009

Abstract

Background: Childhood obesity is a national epidemic in the United States. Increasing the proportion of mothers who breastfeed is one important public health strategy for preventing childhood obesity. The World Health Organization and United Nations Children's Fund (UNICEF) Baby-Friendly Hospital Initiative specifies Ten Steps to Successful Breastfeeding that delineate evidence-based hospital practices to improve breastfeeding initiation, duration, and exclusivity.

Methods: In 2007 and 2009, CDC conducted a national survey of U.S. obstetric hospitals and birth centers. CDC analyzed these data to describe the prevalence of facilities using maternity care practices consistent with the Ten Steps to Successful Breastfeeding.

Results: In 2009, staff members at most hospitals provide prenatal breastfeeding education (93%) and teach mothers breastfeeding techniques (89%) and feeding cues (82%). However, few hospitals have model breastfeeding policies (14%), limit breastfeeding supplement use (22%), or support mothers postdischarge (27%). From 2007 to 2009, the percentage of hospitals with recommended practices covering at least nine of 10 indicators increased only slightly, from 2.4% to 3.5%. Recommended maternity care practices vary by region and facility size.

Conclusion: Most U.S. hospitals have policies and practices that do not conform to international recommendations for best practices in maternity care and interfere with mothers' abilities to breastfeed.

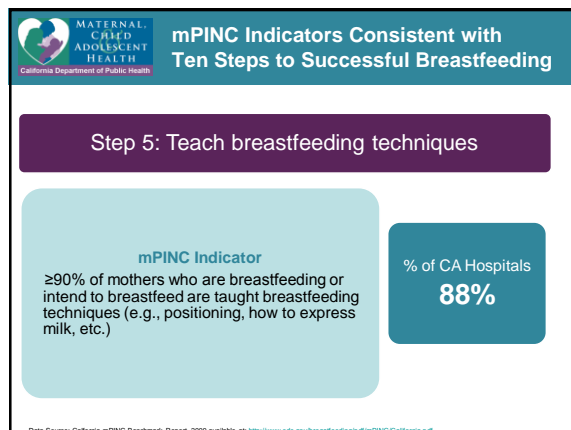
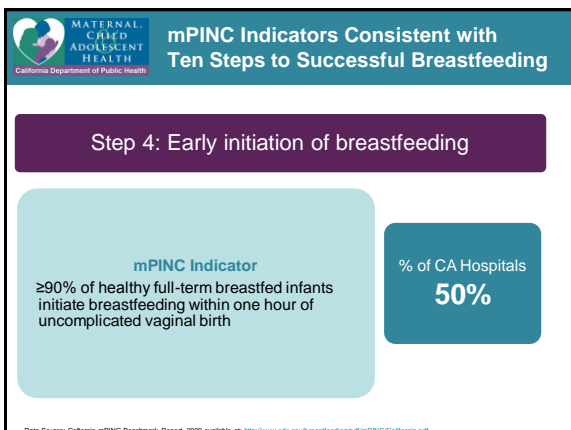
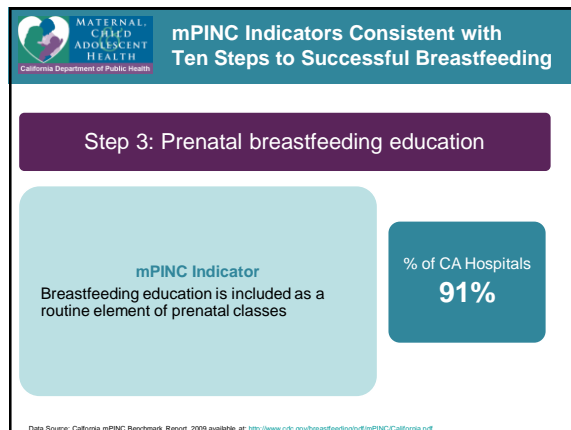
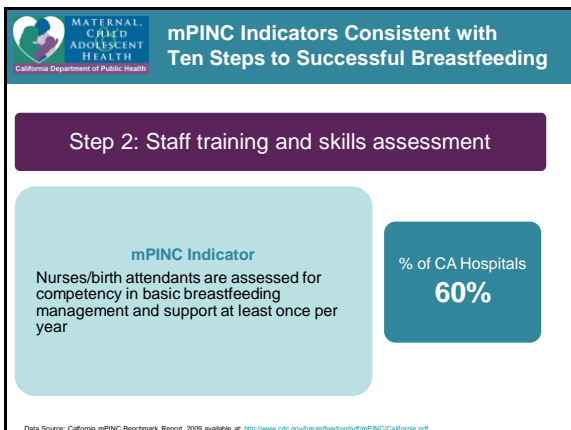
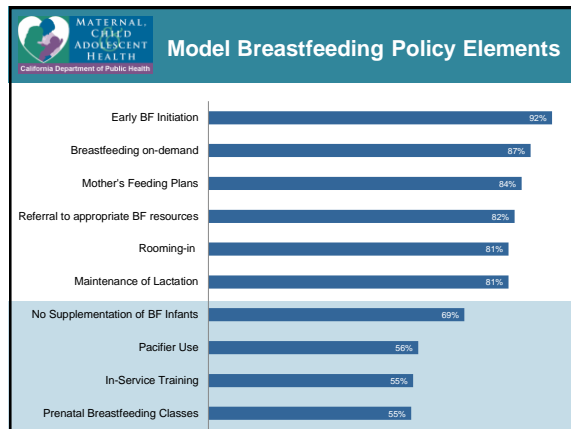
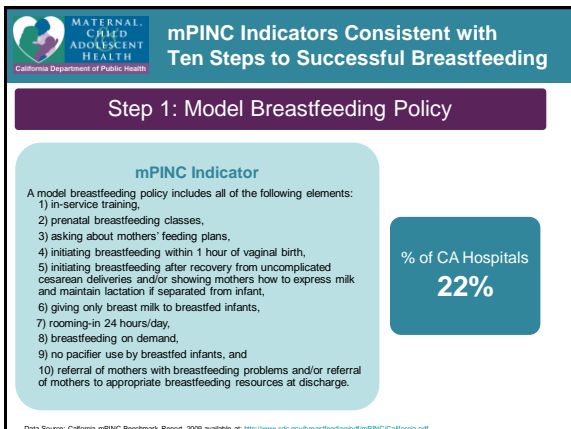
Implications for Public Health Practice: Hospitals providing maternity care should adopt evidence-based practices to support breastfeeding. Public health agencies can set quality standards for maternity care and help hospitals achieve Baby-Friendly designation. Because nearly all births in the United States occur in hospitals, improvements in hospital policies and practices could increase rates of exclusive and continued breastfeeding nationwide, contributing to improved child health.

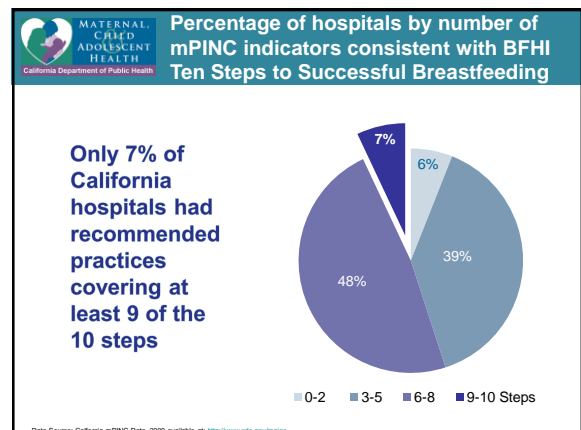
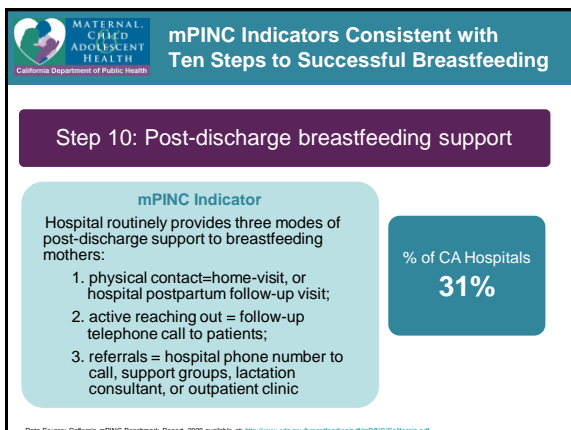
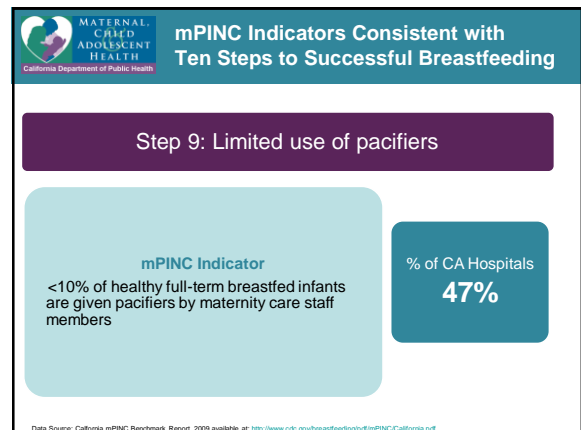
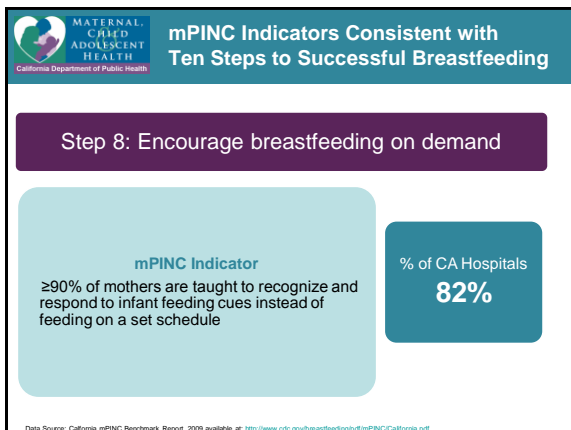
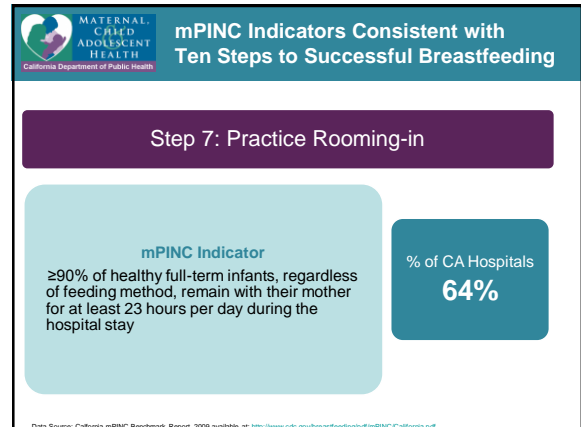
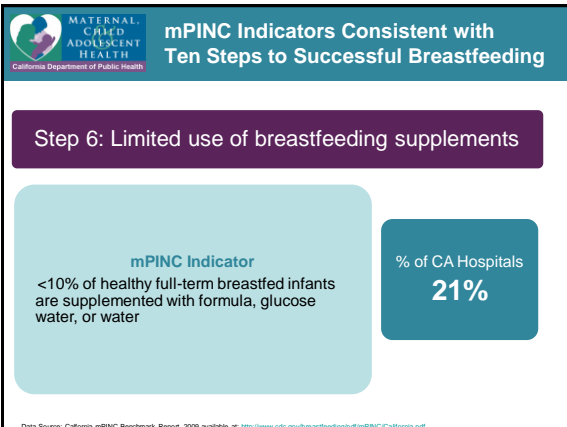
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Tracking the Ten Steps to Successful Breastfeeding: Maternity Practices in Infant Nutrition and Care (mPINC), 2009

California data from the 2009 mPINC survey were analyzed for ten indicators consistent with WHO/UNICEF's Ten Steps to Successful Breastfeeding. In 2009, most California hospitals reported providing prenatal breastfeeding education (93%), teaching women breastfeeding techniques (89%), and teaching women how to recognize and respond to infant feeding cues (82%). Fewer California hospitals followed recommended practices related to limiting breastfeeding supplement use (22%), having a model breastfeeding policy (22%), and providing adequate breastfeeding support to breastfeeding mothers post-discharge (31%). The majority of California hospitals had implemented six to eight recommended practices (48%), while only 7% had recommended practices covering at least nine of the ten steps.

Ten Steps to Successful Breastfeeding	mPINC Indicator	Percent of CA Hospitals
1. Have a written breastfeeding policy that is routinely communicated to all health care staff	Model breastfeeding policy: hospital has a written policy that includes 10 model policy elements	22
2. Train all health care staff in skills necessary to implement this policy	Staff competency assessment: nurses, birth attendants are assessed for competency in basic breastfeeding management and support at least once per year	60
3. Inform all pregnant women about the benefits and management of breastfeeding	Prenatal breastfeeding education: breastfeeding education is included as a routine element of prenatal classes	93
4. Help mothers initiate breastfeeding within an hour of birth	Early initiation of breastfeeding: 100% of healthy full-term breastfed infants initiate breastfeeding within one hour of uncomplicated vaginal birth	50
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants	Teach breastfeeding techniques: 100% of mothers who are breastfeeding or intend to breastfeed are taught breastfeeding techniques	88
6. Give breastfeeding mothers infants no food or drink other than breast milk unless medically indicated	Limited use of breastfeeding supplements: <20% of healthy full-term breastfed infants are supplemented with formula, glucose water, or water	21
7. Practice rooming-in, that is, allow mothers and infants to remain together 24 hours per day	Rooming-in: 100% of healthy full-term infants, regardless of feeding method, remain with their mother for at least 24 hours	83







- California hospitals perform better than the national average and maternity care practices scores have improved from 2007 to 2009.

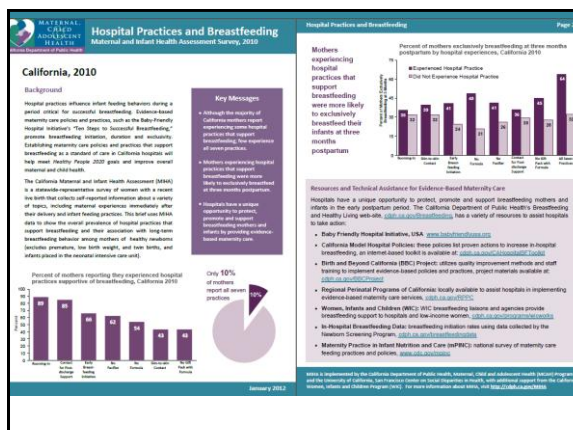
Of the Ten Steps to Successful Breastfeeding:

- Most hospitals provide prenatal breastfeeding education (91%), teach breastfeeding techniques (88%) and feeding cues (82%).
- Few hospitals have model breastfeeding policies (22%), limit breastfeeding supplement use (21%), or support mothers post-discharge (31%).
- In 2009, only 7% of California hospitals had recommended practices covering at least nine of 10 indicators.

Hospital Practices and Breastfeeding Among Women Delivering “Healthy” Newborns in California, 2010

Maternal and Infant Health Assessment
(MIHA) Survey

For more information about the MIHA Survey,
please visit <http://cdph.ca.gov/MIHA>



MIHA: Background and Objectives

- Annual survey of California women with a recent live birth implemented in 1999 and funded by the Maternal, Child and Adolescent Health Division and the California Women, Infants and Children (WIC) Division.
- MIHA is implemented in collaboration with the University of California, San Francisco
- Self-administered mail-survey to women sampled from birth certificates (February – May), with telephone follow-up to non-respondents.
- Administered to English and Spanish speaking populations.
- From 1999-2009 response rates have been 70% or greater, with approximately 3,000-3,500 surveys completed annually.
- 2010 collaboration with WIC increased sample size with approximately 7,000 surveys completed.

Examples of Subject Areas Covered in MIHA

Questions cover the time period before, during or after pregnancy

- Breastfeeding (duration, hospital experience, etc.)
- Maternal Weight / Weight Gain
- Food Security
- Folic Acid Use
- Alcohol/Tobacco Use
- Oral Health
- Mental Health
- Domestic Violence
- Pregnancy Intention / Contraception Use
- Access to Care / Medi-Cal / WIC
- Social / Economic Indicators

**MIHA County Snapshots
Coming Soon!**

<http://cdph.ca.gov/MIHA>

Available for the following top 20 birthing counties:

- Alameda
- Contra Costa
- Fresno
- Kern
- Los Angeles
- Monterey
- Orange
- Riverside
- Sacramento
- San Bernardino
- San Diego
- San Francisco
- San Joaquin
- San Mateo
- Santa Barbara
- Santa Clara
- Sonoma
- Stanislaus
- Tulare
- Ventura

[illegible]



MIHA Survey 2010 Questions Infant Feeding Practices (Breastfeeding)

Since your new baby was born, have you ever breast fed him/her at all (even once)?

Yes No

When your baby was one week old, what were you feeding him/her?

Check all that apply.

Breast milk
Formula

When your baby was one month old, what were you feeding him/her?

Check all that apply.

Breast milk
Formula
Food (like cereal, baby food, or mashed up food the family eats)

When your baby was three months old, what were you feeding him/her?

Check all that apply.

Breast milk
Formula
Food (like cereal, baby food, or mashed up food the family eats)

Are you still feeding your baby breast milk?

Yes No

How old was your baby when you stopped feeding him/her breast milk?

___ days OR ___ weeks OR ___ months



MIHA Survey 2010 Questions Hospital Experiences After Delivery

Here are a few things that may have happened at the hospital where your new baby was born. Please tell us if any of these things happened after your baby was born.

- My baby stayed in the same room with me for at least 23 hours each day at the hospital
- My baby used a pacifier in the hospital
- The hospital gave me a gift pack with formula
- The hospital gave me a telephone number to call for help with breastfeeding once I got home

At the hospital, was your baby fed anything other than breast milk?
(Yes/No/Don't Know)

In the first two hours after your baby was born, how long did you hold your baby "skin-to-skin" (your baby's bare chest on your bare chest)?

Not at all
Less than 15 minutes
15 to 30 minutes
30 minutes to 1 hour
1 to 2 hours

About how soon after your baby was born did you try to breast feed him/her for the very first time?

Less than 1 hour after my baby was born
1 to 2 hours after my baby was born
2 to 6 hours after my baby was born
More than 6 hours after my baby was born



Hospital Practices and Breastfeeding Definitions and Exclusions

Definitions:

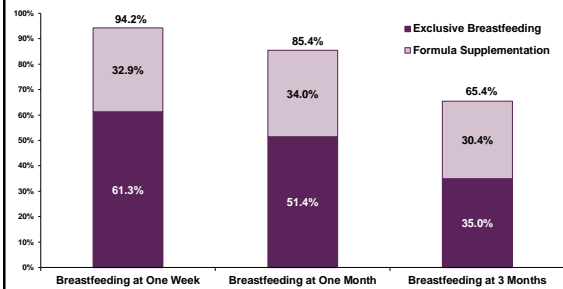
- Rooming-in (baby stayed in same room as mom 23 hours/day or more)
- Early Breastfeeding Initiation (within 1 hour of vaginal birth or 2 hours of c-section birth)
- Skin-to-Skin Contact (at least 30 minutes within 2 hours of giving birth)
- No Formula Supplementation (breast milk only while in the hospital)

Excludes infants considered to be "at risk":

- Low birth weight (5 pounds, 8 ounces or less)
- Premature (less than 37 weeks gestation)
- Placed in the neonatal intensive care unit (NICU) at birth
- A multiple birth (twins or other multiples)



Infant Feeding Practices Among Women Delivering "Healthy Newborns" in California

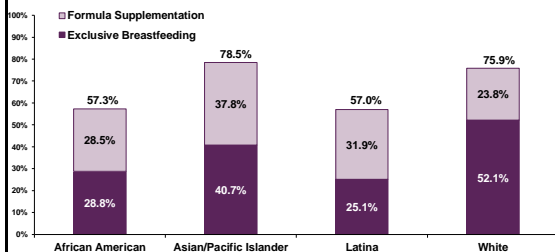


Source: California Maternal and Infant Health Assessment, 2010

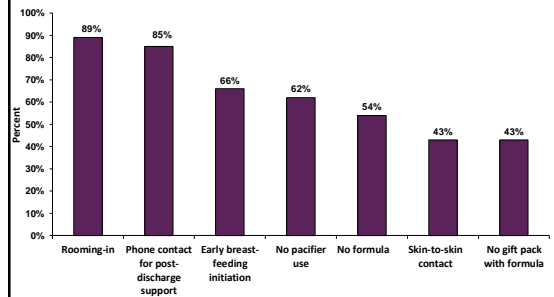
Note: Infant feeding practices among women that reported ever breastfeeding their infant; excludes low birth weight, premature and multiple births, and infants placed in the neonatal intensive care unit (NICU) at birth.



Breastfeeding at 3 Months by Race/Ethnicity Among Women Delivering "Healthy Newborns", MIHA 2010



Many California mothers report hospital experiences that are not fully supportive of breastfeeding

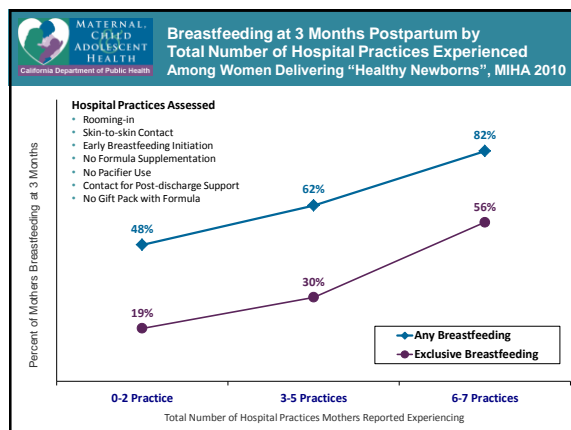
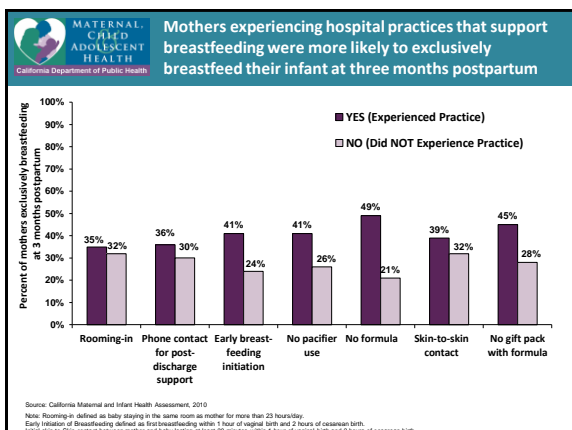
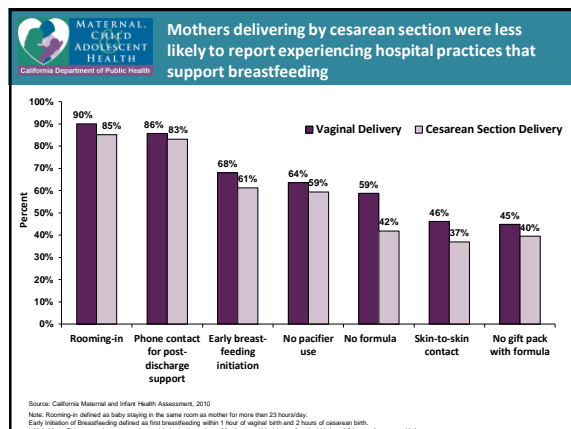
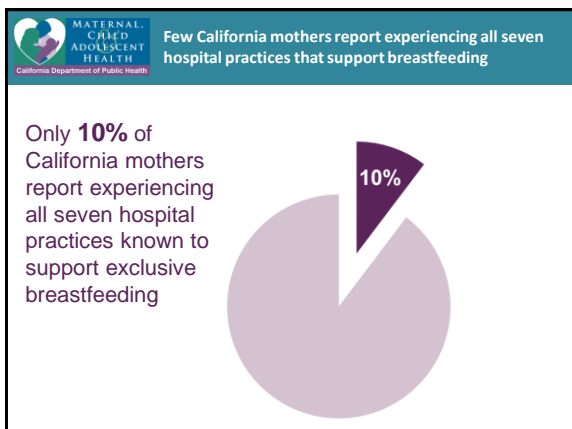


Source: California Maternal and Infant Health Assessment, 2010

Note: Rooming-in defined as baby staying in the same room as mother for more than 23 hours/day.

Early initiation of breastfeeding defined as first breastfeeding within 1 hour of vaginal birth and 2 hours of cesarean birth.

Initial skin-to-skin contact between mother and baby lasting at least 30 minutes within 1 hour of vaginal birth and 2 hours of cesarean birth.



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Summary of MIHA Results

- Although the majority of California mothers report experiencing some hospital practices that support breastfeeding; few experience all seven practices
- Mothers delivering by cesarean section were less likely to report experiencing hospital practices that support breastfeeding
- Mothers experiencing hospital practices that support breastfeeding were more likely to exclusively breastfeed at three months postpartum

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Resources and technical assistance for evidence-based maternity care practices available at: <http://cdph.ca.gov/breastfeeding>

California Model Hospital Policies and Internet-based Toolkit: similar to the BfHI Ten Steps to Successful Breastfeeding, these policies list proven actions to increase in-hospital breastfeeding. Model Policies and an internet-based toolkit with resources to implement them are available at: cdph.ca.gov/CAHospitalBFTToolkit

Birth and Beyond California (BBC) Project: utilizes quality improvement methods and staff training to implement evidence-based policies and practices that support breastfeeding; all materials necessary to implement this project are available at: cdph.ca.gov/BBCProject

In-Hospital Breastfeeding Data: hospital level breastfeeding initiation rates using infant feeding data collected by the Newborn Screening Program, visit cdph.ca.gov/breastfeedingdata

Maternity Practice in Infant Nutrition and Care (mPINC): national survey of maternity care feeding practices and policies at all maternity hospitals in the US, visit www.cdc.gov/implinc

Regional Perinatal Programs of California: locally available to assist hospitals in implementing evidence-based breastfeeding services, to find your RPPC Coordinator, visit cdph.ca.gov/RPPC

Women, Infants and Children (WIC): WIC agencies are important sources of breastfeeding support for low-income women, find a local agency at: www.cdph.ca.gov/programs/wicworks

Tracking In-Hospital Breastfeeding and Formula Supplementation Practices: Newborn Screening Program Data

For more information about in-hospital breastfeeding data, please visit <http://cdph.ca.gov/breastfeedingdata>



In-Hospital Breastfeeding Data Source: Newborn Screening Program Data

- Administered by the Genetic Disease Screening Program
- All nonmilitary hospitals providing maternity services are required to complete the Newborn Screening (NBS) Test form
- Infant feeding data include all feedings since birth to time of specimen collection (usually 24-48 hours since birth)



Methodology for Analyzing In-Hospital Breastfeeding Data

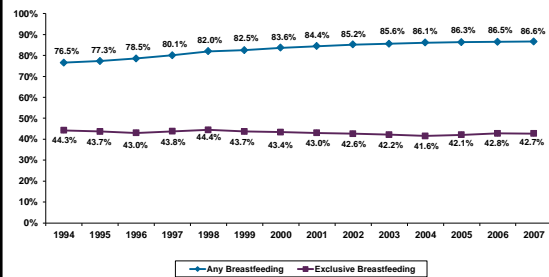
- Numerator for 'Exclusive Breastfeeding'
 - records marked 'Breast Only'
- Numerator for 'Any Breastfeeding'
 - records marked 'Breast Only' or 'Breast and Formula'
- Denominator for both Any and Exclusive Breastfeeding
 - excludes records marked 'TPN/Hyperal' or 'Other' and those with unknown method of feeding ('Not Reported')

New: as of 2008

- excludes cases where infant was in a Neonatal Intensive Care Unit (NICU) at time of specimen collection



Any and Exclusive In-Hospital Breastfeeding in California, 1994-2007



Data Source: California Department of Public Health, Genetic Disease Screening Program, Newborn Screening Database 1994-2007
Prepared by: California Department of Public Health, Maternal, Child and Adolescent Health Program
Note: Includes cases with feeding method: BRD (Breast Only), FOD (Formula Only), or BRF (Breast & Formula)



NATIONAL QUALITY FORUM Perinatal Quality Measure on Exclusive Breastfeeding

Exclusive breast milk feeding during a newborn's entire hospitalization.

Excluded Populations:

- Discharged from hospital while in NICU
- Parenteral Infusion (TPN)
- Diagnosis of Galactosemia
- Experienced Death
- Length of Stay > 120 days
- Enrolled in Clinical Trial
- Documented reason for supplementation

Main, EK. New perinatal quality measures from the National Quality Forum, the Joint Commission and the Leapfrog Group. Curr Opin Obstet Gynecol. 2009 Dec;21(6):532-40.



Changes to Data Collection Tool and Data Analyses Methodology: 2008 and 2009

- In 2007, NBS Test form revised (Version C) to more accurately capture all infant feedings, particularly TPN.
- 2008 breastfeeding data analyses limited to data collected on NBS Test Form (Version C); ~93% of all cases
- In 2008, NBS Test Form was once again revised (Version D) to reflect two separate questions on infant feeding:
 - 1) All feeding since birth
 - 2) Newborn on TPN or amino/acids at time of collection
- For 2009, two different versions of the NBS Test Form (Versions C & D) were used by hospitals
- For 2010, nearly all (~99%) data collected on Version D of form, will serve as new baseline for future comparisons and trending of in-hospital breastfeeding practices in California

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Current Version of the California Newborn Screening Test Form (CDPH 4409 12/08-NBS-(D))

PRIMARY LANGUAGE (Fill only ONE circle): ☐ ENGLISH ☐ SPANISH
☐ OTHER (Specify): _____

FACILITY/SUBMITTER DRAWING SPECIMEN: _____

HOSPITAL/SUBMITTER CODE: _____

REASON FOR TEST (Fill only ONE circle):
☐ INITIAL SPECIMEN
☐ REPEAT OF INADEQUATE SPECIMEN
☐ REPEAT OF EARLY (<12 HRS) SPECIMEN
☐ OTHER (Specify): _____

NEWBORN'S BIRTH DATE: _____

DATE SPECIMEN COLLECTED: _____

TYPE OF SPECIMEN:
☐ HEEL-STEEL
☐ OTHER (Specify): _____

IF COLLECTED AT <12HRS OF AGE, REASON:
☐ NO ☐ YES ☐ YES, indicate transfusion completed
☐ OTHER (Specify): _____

RBC TRANSFUSION BEFORE COLLECTION:
☐ NO ☐ YES ☐ YES, indicate transfusion completed
☐ OTHER (Specify): _____

MEDICAL RECORD # _____

INITIALS OF COLLECTOR _____

NEWBORN ON TPN/INFUSION OF AMINO ACIDS AT TIME OF COLLECTION?
☐ NO ☐ YES

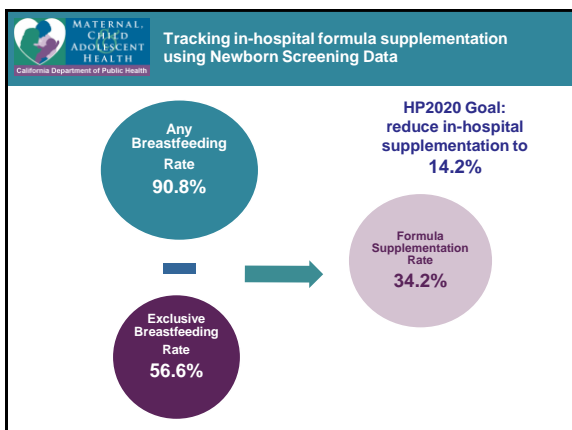
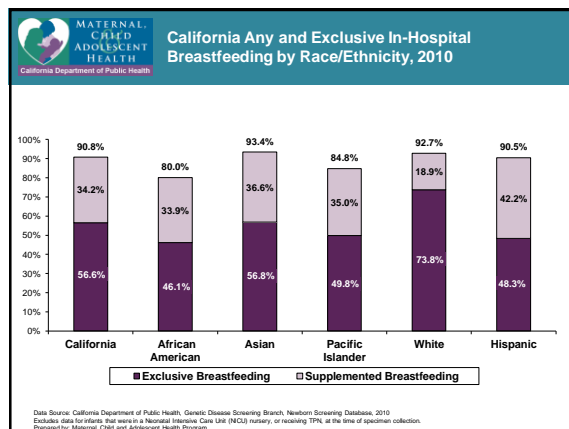
SEX: ☐ MALE ☐ FEMALE

BIRTH WEIGHT: _____ GMS

ALL FEEDING SINCE BIRTH (Fill only ONE circle):
☐ ONLY HUMAN MILK
☐ ONLY FORMULA
☐ HUMAN MILK & FORMULA

ALL FEEDING SINCE BIRTH (Fill only ONE circle):
☐ ONLY HUMAN MILK
☐ ONLY FORMULA
☐ HUMAN MILK & FORMULA

INSTRUCTIONS
ALL FEEDING SINCE BIRTH: Include all feeding from birth to collection. Human milk includes breastfeeding, mother's own expressed milk and banked human milk. If newborn has had neither human milk, nor formula leave this section blank.



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Translating Data to Action Birth and Beyond California Project

In June 2007, the MCAH program dedicated Title V funds to develop a hospital quality improvement project that promotes exclusive breastfeeding

Model: Birth and Beyond Project in Riverside and San Bernardino counties, now known as www.softhospital.com

In-hospital exclusive breastfeeding rates were used to identify regions in California to be targeted for implementation of the BBC project.

